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ABSTRACT

The two major objectives of this study are: (1) to identify the crucial factors affecting fertility behavior among working and non-working women in Nigeria; and (2) to examine the extent to which the "role incompatibility" and "opportunity cost" hypotheses of fertility behavior are supported by empirical facts in Nigeria. Two major orientations have guided studies in fertility behavior among working women. One is sociological, the other economic. The sociological hypothesis maintains that the more incompatible the role of mother and worker are, the more negative the relationship between employment and fertility. The economic hypothesis argues that an increase in labor force participation increases the opportunity cost of children, resulting in fertility reduction. However, research findings from the Nigeria Fertility Survey 1981-82 showed that the relationship between work and fertility is not consistent with the role incompatibility and opportunity cost hypotheses. Women who had worked before and since marriage had the highest fertility rate, followed by women who worked since but not before marriage. Research findings indicate a need for a sound model specification to guide further research. An adequate model for the understanding of fertility-employment relationship must place the impact of culture at the center of analysis. Inconsistent findings with regard to the relationship between fertility and female labor force participation leaves policymakers without an adequate theoretical framework to guide policy action aimed at fertility reduction. A substantial decline in fertility could be attained under a number of conditions affecting the ideal and structural realms of the society. (SM)

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FEMALE LABOR FORCE PARTICIPATION AND FERTILITY IN NIGERIA

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The demographic transition theory, as synthesized by Notestein (1945), marks the beginning of a systematic attempt to explain fertility behavior. The basic assumption of this theory is that economic development/modernization is accompanied by fertility decline. However, a critical examination of the theory by a number of scholars points to the fact that this assumption may be correct only at a very broad level of generalization (Coale, 1973; Teitelbaum, 1975; Caldwell, 1976). Teitelbaum, for instance, has argued that "the theory offers only partial explanation of European trends and ambiguous advice for developing countries". Nonetheless, this central assumption of demographic transition theory has continued to guide many research efforts and policies in developing countries, including Nigeria. In fact, the relationship between female employment (often regarded as an index of modernization and development) and fertility is today an area of research and policy interest. Part of recent efforts toward fertility reduction in many developing countries are aimed at increasing female labor force participation on the expectation that this would result in "role incompatibility", high "opportunity cost of children", and, consequently, lower fertility.

As we are going to see, the relationship between female labor-force participation and fertility in some African countries, including Nigeria, has pointed to the need for a re-examination of this approach to fertility reduction. But it might be sufficient to note at this point that research findings from Nigeria and some other African countries indicate that the relationship between female work and fertility is far from being consistent, varying from positive to negative, and from significant to non-significant relationships (United Nations, 1985). As we shall show later, this has obvious policy implications.

In light of all this, this study is geared toward two major objectives: 1) to identify the

crucial factors which affect fertility behavior among working and non-working women in Nigeria; and 2) to examine the extent to which "role incompatibility" and "opportunity cost" hypotheses of fertility behavior are supported by empirical facts in Nigeria.

Conceptual Framework

Two major theoretical orientations have guided studies in fertility behavior among working women. One is sociological and the other is economic. The sociological perspective, otherwise referred to as "role incompatibility hypothesis", emphasizes the diverse roles which a woman plays in modern society, especially those of mother and worker, as they affect her fertility choice and decisions. This hypothesis maintains that the more incompatible the role of mother and worker are, the more negative the relationship between employment and fertility. The point being made here is that in a situation where economic and social life is organized in such a way that it is difficult to combine both childbearing and employment, there would be an inverse relationship between fertility and employment. Conversely, where work and childbearing are both compatible, the relationship between them would be zero. It is important to note that the policy derivative from this hypothesis is that role incompatibility will expectedly increase with female labor-force participation, particularly in the modern sector, thus leading to fertility reduction.

The second approach to the study of female employment and fertility focuses on the opportunity cost of children, and is based on micro-economic theories of household decision-making. In sum, it argues that an increase in labor-force participation and work commitment increases the opportunity cost of children, such as lost income and satisfaction arising from a job, thereby making it unattractive to have more children; and this, consequently, results in fertility reduction.

It could be observed that these two perspectives are guided by the assumption that there is a negative relationship between female labor-force participation and fertility within and across cultures. The only difference between them is that while the sociological

theory emphasizes role incompatibility as being related to fertility reduction, the economic theory emphasizes the rising cost of children. However, it has been noted that since role incompatibility increases with rising child opportunity cost, the sociological perspective is entirely consistent with the economic perspective (United Nations,1985).

We would like to observe that one of the major shortcomings of the "sociological" and the "economic" perspectives for the study of the employment-fertility relationship, is their failure to recognize that the effect of role incompatibility and opportunity cost of children on fertility are culture-specific. In some developing countries, for instance, role incompatibility and opportunity cost of children hardly result in reduced fertility among working women because domestic help is readily available and cheap, and other family/kinship members are expected to help in childcare and upbringing. This has pointed to the need to take into account differences in socio-cultural settings as they either enhance, modify, or nullify the impact of labor-force participation on fertility (Cain, 1984; Kupinsky, 1977:87; Oppong, 1983; Ware, 1977).

It is necessary to observe, therefore, that neither the "sociological" nor the "economic" theory may serve as an adequate framework for the study of the relationship between female labor-force participation and fertility in Nigeria. An appropriate framework must place the socio-cultural structure at the center of analysis, and any model that fails to do this may run the risk of obscuring and distorting rather than explaining the reality of the Nigerian situation. We shall dwell more on this under our model specification.

Review of Empirical Findings

While research findings in developed countries tend to show inverse relationships between female labor-force participation and fertility, findings in the developing countries are quite inconsistent. For instance, in a recent study of the relationship between work and fertility in 31 developing countries (United Nations, 1985), controlling for marital duration and marital duration squared; age at marrige; a dummy variable representing whether or not the respondent's first marriage was still intact; type of residence; respondent's

education and husband's occupation, showed that the effect of work on fertility was significant for 24 of the 31 countries studied, but not significant in 7 of them. Ten African countries were included in the study, and the relationship was significant in 5 of them, and not significant in the other half.

As pointed out by the author, there was a high multicollinearity between husband's occupation, type of residence, and respondent's education on the one hand, and respondent's occupation on the other. This might have seriously affected the reliability of findings, and, therefore, raises the issue of using adequate theory as a guide for sound model specification (Lieberson, 1985; Berry and Feldman, 1985).

With specific reference to Nigeria, research findings from the Nigeria Fertility Survey 1981/82 showed that the relationship between work and fertility is far from being consistent with the the role incompatibility and opportunity cost hypotheses (see tables 1 and 2 attached). Table 1 shows that within all the marriage duration age categories, women who were employed any time after marriage tended to have higher mean cumulative fertility than women who had never worked or worked only before marriage (National Population Bureau,1984:83). The total fertility rate among the women followed similar trends (see table 2). Women who had worked since and before marriage had the highest total fertility rate, followed by those who worked since but not before marriage. Total fertility rate was lowest for women who worked before marriage only, while the rate for women who never worked was almost similar to that of women who worked at the time of interview but not before marriage.

We hope to analyze in detail the Nigeria Fertility Survey data on work participation and fertility, but what is clear at this point is that there tends to be a positive relationship between work and fertility among Nigerian women.

A study by Okojie (1986) among the women of Bendel State, Nigeria, using two major explanatory dimensions namely, the women's private status (measured by sex-role ideology, division of labor, home decision-making, economic power vis-a-vis the husband) and their public status (education, occupation, income and husband's education,

occupation and income) failed to significantly explain fertility behavior. The author, however, noted that the private status variables performed better than the public status variables in explaining fertility, and that the poor performance of the public status variables was due to lack of variation in them among the study population.

A major shortcoming of this study is its model assumption to the effect that the private and the public variables are the underlying causes of fertility behavior among the Nigerian women she studied. On the contrary, we suspect that the crucial variables center around cultural values attached to children and large family norms, and on gender preference, irrespective of public and private statuses neither of which, it could be argued, is yet a necessary/sufficient condition for the rejection of values surrounding family life and procreation. It is therefore possible that her study model was misspecified thus resulting in biased estimators.

In a survey of 6,606 women aged 15-59 in Ibadan, Ware found that the average parity, controlling for age, was far from showing that housewives had more births than those who were working. Furthermore, toward the end of their reproductive ages (45-49) women engaged in white-collar/professional occupations, those in other occupations, as well as housewives had on the average about five live births. She concluded that "it would certainly appear that employment is neither incompatible with child-bearing nor offers alternative satisfaction sufficient to induce women to limit the size of their families" (Ware, 1977:19).

However, there are few studies which showed a negative relationship between fertility and female employment, particularly in the formal sector (Feyisetan, 1985; Arowolo, 1977, cited in Okojie, 1986). These findings suggest that occupations which require skills learnt through formal education are negatively correlated with fertility compared with unskilled and trading occupations. But it could be argued that this may be due to higher age at marriage brought about by education rather than the effect of work participation in the formal sector itself.

Model Specification

The assumption behind most of the studies in labor-force participation and fertility follows the classical demographic transition theory to the effect that modernization is a precondition for fertility decline. Female employment is regarded as an index of modernization and thus should result in fertility decline. But the female employment-fertility situation in some parts of the developing countries has shown that this assumption may be unwarranted. A basic question which must be addressed in an effort to improve our knowledge on female employment-fertility relationship revolves around the issue of validity. A number of factors could bring about the problem of validity in research, but we would be concerned here with the issue of model misspecification.

Model misspecification arises when a researcher uses the wrong model to account for the variation in the independent variable. This error could occur under two major circumstances: a) where we have the proper variables in the model but the functional form of the relationship between the dependent and a number of independent variables are improperly specified. For example, if the relationship between female labor-force participation and fertility is nonlinear and nonadditive, and a linear/additive relationship is specified and tested, the result is bound to be questionable and misleading; b) specification error also arises where one estimates a model with wrong independent variables. In this case, either one or more variables that should have been in the model are omitted, or one or more variables that should be omitted are included, or both. Model misspecification may not only affect the efficiency of our estimators, but may also render them biased (Berry and Feldman, 1985).

The implication of all this for research on fertility and female labor-force participation is that we must allow sound model specification to guide our efforts if we want to actually move closer to the reality being studied. And, it has been suggested that only sound theory can help us build an adequate research model by identifying crucial variables to be included or excluded as well as the functional form of the relationship between the

dependent and the independent variables (Lieberson, 1985).

It could be argued, unfortunately, that even though researchers have increasingly come to realize the important role which cultural norms and values could play in fertility behavior, many of them fail to measure the direct impact of culture such as son preference, values attached to children, and extended family norms on fertility. Rather, they focus on what we would refer to, following Lieberson (1985), as "superficial" (as opposed to the "basic") causes of fertility behavior such as "sex-role ideology", "household decision-making", and "female economic power and labor-force participation". In advocating for the need to incorporate the socio-cultural components in the model for explaining the relationship between women's status and fertility in the developing countries, Cain (1984:56) has in fact observed that indicators of women's economic status, such as labor-force participation rates or school enrollment ratios, cannot replace the underlying patriarchal structure conditioning much of fertility behavior in the developing countries. We are, therefore, of the view that an adequate model for the understanding of fertility-employment relationship must place the impact of culture at the center of analysis since this largely conditions the intermediate variables affecting fertility behavior.

We tend to believe that Nigeria, like many other African countries, has a resilient culture (Herskovits and Bascom, 1959) and that the basic determinants of fertility behavior among Nigerian women, whether inside or outside the labor force, still remain traditional. In other words, a typical Nigerian woman, irrespective of her labor-force status is essentially a tradition-bound individual holding to the traditional norms which attach great importance to sex preference and large family norms, thus resulting in overall high fertility.

Admittedly, there are slight variations in fertility rates among working and non-working women in Nigeria, with the former sometimes even having higher rates, (National Population Bureau,1984), but this could be explained in terms of differences in birth interval, breastfeeding practices, infant mortality experience, as well as differences in nutritional and health status brought about mainly by income differentials, and not due to

role incompatibility resulting from female labor-force participation. It could be argued, for instance, that in situations where large family norms are still pervasive, improved female status may even increase, rather than lower, fertility rates at least in the short run, by reducing the rate of pregnancy wastage (Cochrane, 1979:10).

However, it must be admitted that the relationship between female labor-force participation, fertility, and a number of intermediate variables such as age at marriage, birth interval, contraceptive use and knowledge, breastfeeding practice, infant mortality rate, and cultural norms and values, are much more complex than we often imagine. Our study would, therefore, attempt to identify both the direct and indirect relationships between fertility and each of these independent variables, using path analysis.

Hypotheses

1. Attachment to traditional norms surrounding family life and procreation is still strong among all Nigerian women, irrespective of employment status.

2. There is yet no evidence of role incompatibility among all categories of Nigerian working mothers.

3. Contrary to role incompatibility and opportunity cost of children hypotheses, the higher the employment participation of Nigerian women, the higher their fertility.

Sources of Data

This study will utilize data from the Nigeria Fertility Survey (NFS) 1981/82.

The survey, consisting of a general household survey and survey of women aged 15-49 years, yielded a sample of 9,361 households and 9,727 women.

The data provide information on economic and social indicators of female status, such as female education, occupation, current and past work status, duration of marriage, age at marriage, breastfeeding practices, birth interval variables, desired family size, sex preference, and knowledge and use of contraception, all of which are relevant to this study.

Policy Implications

Inconsistent findings with regard to the actual relationship between fertility and female labor-force participation leaves us without an adequate theoretical framework to guide policy action aimed at fertility reduction. There is, therefore, the need to come up with a model which is both theoretically and empirically adequate for the explanation of the female employment-fertility relationship in Nigeria. Even though we intend to show that the basic cause of high fertility among Nigerian women is essentially cultural, irrespective of labor-force participation, we do realize that the solution to the problem is far from being an easy one. In fact, we accept Cain's (1984:57) position to the effect that recognition of the basis of the problem, while a necessary step toward informed policy, hardly makes the problem less formidable or more amenable to policy intervention.

Nevertheless, we are of the view that a substantial decline in fertility could be attained in Nigeria under a number of conditions affecting both the ideational and the structural realms of the society. First, when the social and economic transformation becomes widespread and pervasive enough to significantly weaken the traditional basis of high fertility. Secondly, when there is a sustained campaign for the population education of the populace aimed at sensitizing them to the need for fertility reduction. In pursuing this goal of population education, the services of communication experts should be employed with the aim of designing population education messages to suit various audiences as well as ensuring that the messages are properly delivered. The national government should, however, pursue at the same time an effective equity-oriented development so as to gain legitimacy and the trust of the populace and thus carry them along in the process. In the absence of this, a program designed with the best of intentions is likely to be confronted with resistance and opposition.

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Table 1
Mean Cumulative Fertility by Pattern of Work and Years Since First Marriage Among Nigerian Women

Pattern of Work	Years Since First Marriage		
	Less than 10	10-19	20+
Now and before marriage	1.94	4.32	5.69
Now but not before marriage	2.04	4.43	5.46
Since (not now) and before marriage	2.14	4.34	7.80
Since but not before marriage	1.67	4.54	5.50
Before marriage only	1.38	4.33	5.35
Never worked	1.48	3.91	5.21

Source: National Population Bureau, The Nigeria Fertility Survey 1981/82, Lagos, 1984.

Table 2
Total Fertility Rate by Work Pattern Among Nigerian Women (Using Five Year Period Preceding the Survey)

Pattern of Work	TFR
Now and before marriage	6.95
Now but not before marriage	6.94
Since (not now) and before marriage	8.58
Since but not before marriage	7.05
Before marriage only	6.21
Never worked	6.98

Source: Same as in table 1.